

Appl. No. 10/500,762
Amendment and/or Response
Reply to Office action of 6 April 2006

Page 2 of 12

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A circuit arrangement for an AC voltage supply of a plasma display panel, the arrangement comprising ~~at least:~~

_____ a transistor bridge having a pair of voltage input nodes and a pair of voltage output nodes (T1, T2, T3, T4),

_____ an input voltage coupled to the pair of voltage input nodes of the transistor bridge (U0),

_____ a capacitor (Cp) of the a plasma cell coupled to the pair of voltage output nodes of the transistor bridge,

_____ a DC voltage converter that provides an auxiliary charging voltage from the input voltage, and

_____ a charging current circuit that receives the auxiliary charging voltage and provides charging current to the capacitor, the charging current circuit being supplied with an auxiliary charging current (u1), characterized in that the DC voltage converter is connected in parallel to the auxiliary charging voltage (u1).

2. (Currently amended) A ~~The~~ circuit arrangement ~~as claimed in of~~ claim 1, characterized in that wherein the DC voltage converter is a boost converter.

3. (Currently amended) A ~~The~~ circuit arrangement ~~as claimed in of~~ claim 2, ~~wherein~~ ~~4,~~ characterized in that the boost converter comprises a supply transistor (TA), a supply diode (DA) and an a supply inductor (LA).

Appl. No. 10/500,762
Amendment and/or Response
Reply to Office action of 6 April 2006

Page 3 of 12

4. (Currently amended) A-~~The circuit arrangement as claimed in of~~ claim 3, wherein
the DC voltage converter provides the auxiliary charging voltage to a charging
capacitor, and an auxiliary discharging voltage to a discharge capacitor, and
the inductor and diode are arranged in series between the charging capacitor
and discharging capacitor 1, characterized in that the three connections of a boost
converter are connected to the positive side of the capacitor (Csb), to ground and to
the positive side of the capacitor (Csa).
5. (Currently amended) A-~~The circuit arrangement as claimed in of~~ claim 1,
characterized in that wherein the auxiliary charging voltage (u1) ~~has a value~~
~~exceeding half the value of~~ is greater than half the input voltage (U0).
6. (Currently amended) A-~~The circuit arrangement as claimed in of~~ claim 1,
characterized in that wherein the charging current circuit ~~comprises at least includes~~
a series combination of ~~an auxiliary a charging~~ transistor (T11), a ~~first charging~~ diode
(D1) and a charging inductor ~~a first coil (L1).~~
7. (Currently amended) A-~~The circuit arrangement as claimed in of~~ claim 1,
characterized in that wherein the auxiliary charging voltage (u1) is applied to an
auxiliary capacitor (Csa).
8. (Currently amended) A-~~The circuit arrangement as claimed in of~~ claim 1,
characterized in that wherein the a capacitance (Csa) of the auxiliary capacitor is
much larger than a capacitance of the capacitor (Cp) of the plasma cell.

Appl. No. 10/500,762
Amendment and/or Response
Reply to Office action of 6 April 2006

Page 4 of 12

9. (Currently amended) A ~~The~~ circuit arrangement as ~~claimed in of~~ claim 1, characterized in that wherein the DC voltage converter provides an auxiliary discharging voltage, and the auxiliary charging voltage (u1) is generated from an the auxiliary discharging voltage (u2) by a DC converter.

10. (Currently amended) A ~~The~~ circuit arrangement as ~~claimed in of~~ claim 3, characterized in that wherein the supply transistor (TA) via its source has shares a first connection point shared with the an auxiliary charging capacitance (Csa) of that stores the auxiliary voltage and with the a ground terminal of the input voltage (U0), and via its drain has a second connection point shared with the coil (LA) supply inductor and the an anode of the supply diode (DA).

11. (Currently amended) A ~~The~~ circuit arrangement as ~~claimed in of~~ claim 10-3, characterized in that wherein a cathode of the supply diode (DA) with its cathode has a connection point shared with the a charging transistor (T11) of the charging oscillator current circuit and the positive side of the the auxiliary charging capacitor (Csa).

12. (Currently amended) A ~~The~~ circuit arrangement as ~~claimed in of~~ claim 10-3, characterized in that wherein the coil (LA) with its other end supply inductor is connected at least to the a discharging transistor (T12) of a discharging oscillator current circuit.

13. (Currently amended) A ~~The~~ circuit arrangement as ~~claimed in of~~ claim 3, wherein 1, characterized in that the value of the auxiliary charging voltage (u1) is more than 50% of the value of is greater than half the input voltage (U0).

Appl. No. 10/500,762
Amendment and/or Response
Reply to Office action of 6 April 2006

Page 5 of 12

14. (Currently amended) A circuit arrangement for the AC voltage supply of a plasma display panel, the arrangement comprising at least:

_____ a transistor bridge having a pair of voltage input nodes and a pair of voltage output nodes (T1, T2, T3, T4),

_____ an input voltage coupled to the pair of voltage input nodes of the transistor bridge (U0),

_____ a capacitor (Cp) of the a plasma cell coupled to the pair of voltage output nodes of the transistor bridge,

_____ a DC voltage converter that provides an auxiliary discharging voltage from the input voltage, and

_____ a discharging circuit that receives the auxiliary discharging voltage and provides discharging current to the capacitor, the discharging circuit supplying an auxiliary discharging voltage (u2), characterized in that in addition a DC voltage converter is connected in parallel to the auxiliary discharging voltage (u2).

15. (Currently amended) A ~~The~~ circuit arrangement as ~~claimed in of~~ claim 14, characterized in that wherein the DC voltage converter is a buck converter.

16. (Currently amended) A ~~The~~ circuit arrangement as ~~claimed in of~~ claim ~~14~~ 15, characterized in that wherein the buck converter comprises a supply transistor (TB), a supply diode (DB) and ~~an a~~ supply inductor (LB).

17. (Currently amended) A ~~The~~ circuit arrangement as ~~claimed in of~~ claim ~~14~~ 15, characterized in that wherein the ~~three connections of a buck converter are is~~ connected to the a positive side of the input voltage (U0), to ground a negative side of the input voltage, and to the positive side of the an auxiliary discharge capacitor that stores the discharge voltage (Csb).

Appl. No. 10/500,762
Amendment and/or Response
Reply to Office action of 6 April 2006

Page 6 of 12

18. (Currently amended) A-~~The~~ circuit arrangement ~~as claimed in of~~ claim 14, characterized in that wherein the auxiliary discharging voltage ~~(u2)~~ has a value that falls short of half the value of is less than half the input voltage ~~(U0)~~.

19. (Currently amended) A-~~The~~ circuit arrangement ~~as claimed in of~~ claim 14, characterized in that wherein the discharging circuit ~~comprises at least includes~~ a series combination of an auxiliary discharging transistor ~~(T12)~~, a second discharging diode ~~(D2)~~ and a discharging inductor ~~a second coil (L2)~~.

20. (Currently amended) A-~~The~~ circuit arrangement ~~as claimed in of~~ claim 14, characterized in that wherein the auxiliary discharging voltage ~~(u2)~~ is applied to an auxiliary discharging capacitor ~~(Csb)~~.

21. (Currently amended) A-~~The~~ circuit arrangement ~~as claimed in of~~ claim 20 14, characterized in that wherein ~~the a~~ capacitance ~~(Csb)~~ of the auxiliary discharging capacitor ~~by far exceeds is significantly greater than a~~ the capacitance ~~(Cp)~~ of the plasma cell.

22. (Currently amended) A-~~The~~ circuit arrangement ~~as claimed in of~~ claim 14, characterized in that wherein the auxiliary discharging voltage ~~(u2)~~ is generated from ~~the a~~ discharge of the capacitor of the plasma cell ~~(Cp)~~ and stabilized by a the DC voltage converter.

23. (Currently amended) A-~~The~~ circuit arrangement ~~as claimed in of~~ claim 22, characterized in that wherein the DC voltage converter compensates for ~~the~~ losses caused by the commutation and takes the ~~necessary~~ power from the input voltage ~~(Ue)~~.

Appl. No. 10/500,762
Amendment and/or Response
Reply to Office action of 8 April 2006

Page 7 of 12

24. (Currently amended) A ~~The~~ circuit arrangement ~~as claimed in of~~ claim 16, characterized in that wherein the supply transistor (TB) via its drain has shares a first common connection point with ~~the a~~ positive side of the input voltage (U0) and via its source ~~has shares~~ a common connection point with the supply inductor coil (LB) and ~~the an~~ anode of the supply diode (DB).

25. (Currently amended) A ~~The~~ circuit arrangement ~~as claimed in of~~ claim 16, characterized in that wherein the coil (LA) supply inductor is connected to ~~the a~~ discharging transistor (T12) of the discharging circuit.

26. (Currently amended) A ~~The~~ circuit arrangement ~~as claimed in of~~ claim 25, wherein the supply inductor 16, characterized in that with its other end the coil (LA) is connected at least to ~~the a~~ charging transistor (T14) of a charging circuit.

27. (Currently amended) A ~~The~~ circuit arrangement ~~as claimed in of~~ claim 21, wherein 14, characterized in that ~~the value of~~ the auxiliary discharging voltage (u2) is less than 50% of the value of is less than half the input voltage (U0).

28. (Currently amended) A ~~The~~ circuit arrangement ~~as claimed in of~~ claim 1, characterized in that wherein the DC voltage converter provides an auxiliary discharging voltage from the input voltage, and the auxiliary charging and discharging voltages (u1) and (u2) and the associated DC voltage converters are used for a plurality of independent bridge circuits which utilize a common that are coupled to the input voltage (U0).

Appl. No. 10/500,762
Amendment and/or Response
Reply to Office action of 6 April 2006

Page 8 of 12

29. (Currently amended) A plasma display panel comprising a circuit arrangement for supplying AC voltage to the plasma display panel, which circuit arrangement comprises at least:

_____ a transistor bridge having a pair of voltage input nodes and a pair of voltage output nodes (T1, T2, T3, T4),

_____ an input voltage coupled to the pair of voltage input nodes of the transistor bridge (U0),

_____ a capacitor (Cp) of the a plasma cell coupled to the pair of voltage output nodes of the transistor bridge,

_____ a DC voltage converter that provides an auxiliary charging voltage from the input voltage, and

_____ a charging circuit that receives the auxiliary charging voltage and provides charging current to the capacitor, the charging circuit being supplied with an auxiliary charging voltage (u1), characterized in that the DC voltage converter is connected in parallel to the auxiliary charging voltage (u1).